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AMERICAN
GAS JOURNAL
Established 1859 Pioneer of the Gas Industry

VOL. 125. No. 14.
WHOLE No. 3206.

NEW YORK, SATURDAY, OCTOBER 2, 1926.

Subscription, $3 Per Year
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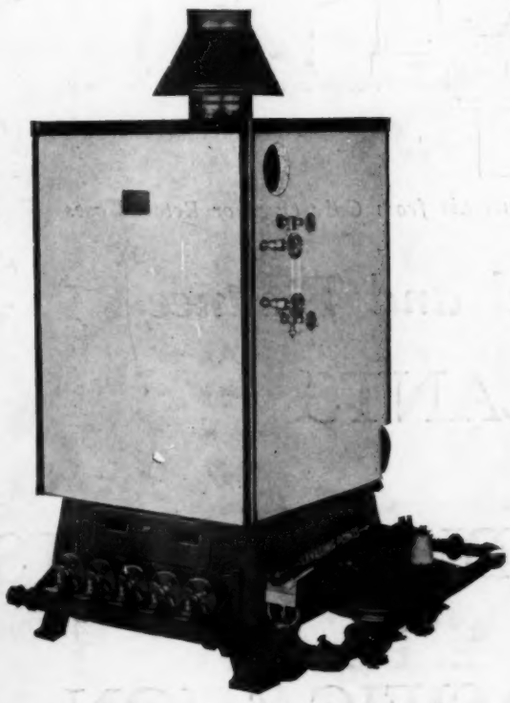

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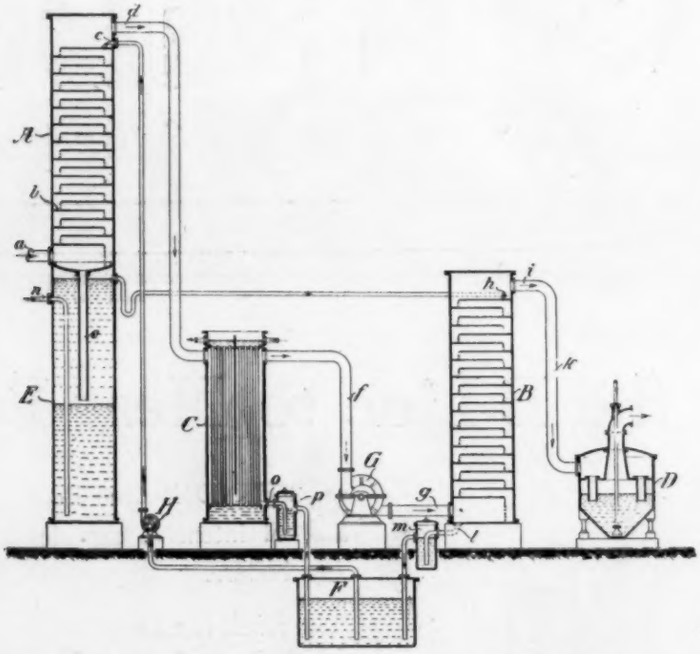

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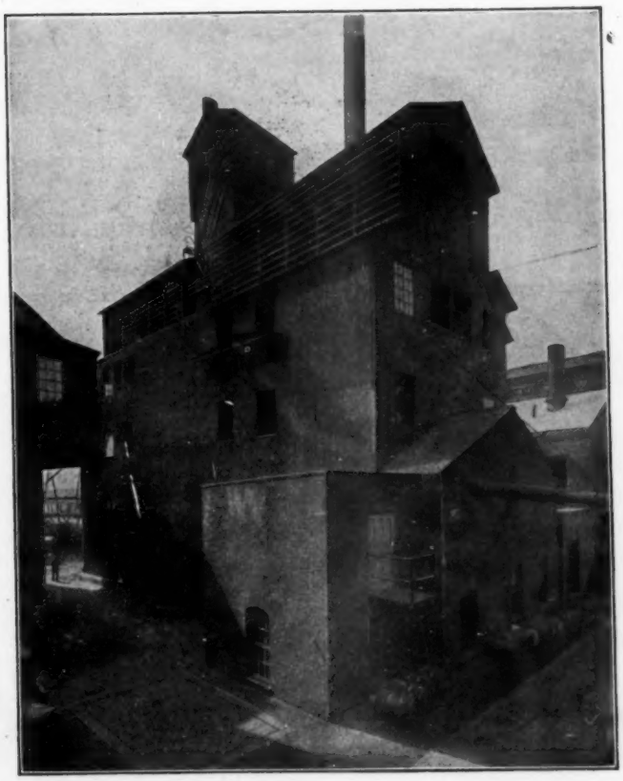

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American Gas Journal

SIXTY-SEVENTH YEAR

Published Weekly by American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.

S. G. KRAKE, Pres. & Treas. C. S. MYERS, Vice-Pres. A. M. GLEASON, Sec'y.

STANTON G. KRAKE, Managing Editor ISMAR GINSBERG, Editor

"MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS"

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Subscription $3.00 per year, including postage, in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents.

AMERICAN GAS JOURNAL, October 2, 1926. Vol. 125. No. 14.
Published weekly by American Gas Light Journal, Inc., New York, N. Y.
Entered as second-class matter Jan. 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.

AMERICAN
GAS JOURNAL

Established 1859—Pioneer of the Gas Industry

Vol. 125. No. 14. NEW YORK, OCTOBER 2, 1926. Whole No. 3596.

Service and Its Vision

True understanding of meaning of home basic in home service

Anna J. Peterson

Director of the Home Service Department, The Peoples Gas Light & Coke Co., Chicago

WHAT nearly all of us need, young or old, is a little kindness, a little mothering, a little love. The need is universal, and its answer is found in the Home, with a woman in the center of it. Just as universal as is that need, is the appeal which Home Service makes, as the ally of the woman in the home.

To me it is vital as a director of Home Service to have a vision of what home may mean to every man, woman and child, every member of the family. Home must be the most delightful place in the world; a sheltering place, a comforting place, a place where we are thoroughly understood, where our virtues predominate over our human weaknesses. I think of Home as a soothing, lovely place of loyalty and comfort. There are choice adjectives one uses to describe many other things, but home is fully described in the word itself. Every one can see in that word the picture of an easy chair, books, magazines, friendly faces around the dinner table. When we get that vision of home and what it may mean to every member of the family, we can take the straight path to our goal of bringing Home Service to every customer.

Home Most Creative Thing in World

Many times people have asked me, "How do you keep your interest all these years in home?" I am always amazed at the question, for to me it is the most creative thing in the world. There are 365 days in the year with meals to prepare, and there are a hundred recipes for each day in the year to choose from. One need never repeat from January to January. When the homemaker senses this creative interest, home making becomes the joy which makes it the best job in all the world.

Home Psychology Which Puts Home Service Across

Home Service has as its avowed purpose, making the kitchen the heart and soul of the home. It is direct propaganda to stimulate interest in home cooking, bringing the gas range into full usefulness. To drive that propaganda home, and repeat it often enough so that it will stick, means that we have to approach it from every angle.

All Household Problems Welcomed

We urge the housewife to bring us her every problem, knowing if we establish a friendly relation over the mending basket or laundry tubs, she will invite us into her kitchen and let us help her with the meal planning and cooking. More than that she will ask us about keeping food chilled by gas, heating the house with gas, or burning her garbage and waste with gas. We can put her in touch with the right department, and thereby render her a real service.

I emphasize in my radio talks, in my lecture-demonstrations, in fact, each time I talk, that every problem may be mastered if the attitude of mind is right. In the face of discouragement I urge the housewife to say "Let Mrs. Peterson do my worrying" and turn to the phone, calling Wabash 6000, Home Service.

Just how this works was well illustrated one day last week. It was a dreary, rainy day. The kind of a day which makes a warm, dry home look most inviting. As soon as we arrived in the morning the 'phones started to ring. All four 'phones were kept busy continuously giving recipes, answering questions of all kinds. Over three hundred 'phone calls were answered that day giving directions to women who were in their kitchens ready to cook, with material at hand. Some of the calls were from women who had started wrong, were in trouble and needed help. Next time when in doubt they would call us first.

Joy of Homemaking

Continually I stress the joy of homemaking, for a woman must have joy in her home and believe it the best place in all the world, to really make it so. I tell her that the personality and atmosphere found in her home depend upon the amount of herself which she puts into it. That is why, if she is interested in making her living room look more attractive and writes us about it or comes in to talk it over, we are glad to help her. We know that every

Mrs. Peterson Demonstrating a Salad From the Lowly Dandelion

bit of interest and joy she puts into her home, will eventually reflect in her desire to set a delicious table of nourishing home-cooked foods.

Besides teaching that successful homemaking depends upon the right attitude of mind and the joy that is put into it, I tell every woman she can be, and can make her family believe she is, the best cook in the land. She can be that if she comes to the Home Service demonstrations, and carries out at home the instruction she has received. I tell her more than that—something which I believe is good home psychology—to suggest to her husband as she passes him the tender biscuit, "Isn't this good?" A little positive suggestion goes a long way. On the other hand she will take more pride in her cooking, preparing it with loving care and interest if it is appreciated by every member of the family.

Kitchen, the Heart and Soul of the House

I believe that the heart and soul of every home is the kitchen. Show me the man who is making good in his business and I will take you behind the scenes into a kitchen which is functioning. It is like the motor in a power boat or automobile. Rythmically, smoothly, it is producing the vim and energy through three wholesome, satisfying meals each day.

Take me into a school room and point out the children who always do good work and I'll take you home to a mother who cooks simple, wholesome food for them, with the delicious dainty touches which children love as well as grown ups.

It is true that the woman who puts joy and loving care into her homemaking and cooking will get joy and loving care in return through the success of her husband, the health and progress of her children.

That is why I never grow tired, and my work never grows humdrum although I have taught other women to cook for thirty years and plus.

Taking the Housewife's Pulse

The timeliness of the features offered by Home Service has a great deal to do with their success. This was well illustrated to us this summer when we suggested in our weekly newspaper feature that summer menus offer a splendid opportunity to reduce weight. We offered to supply a week's menus of "Slim Silhouette" foods. We were literally swamped with telephone calls and requests by mail, and every one in the department was kept busy supplying this demand during the month of the year which is usually dull. So great was the interest that we prepared Slim Silhouette menus for a month, and to date we have filled about 3,000 requests in all.

I make it my business to listen to what women are talking about, to see in the women's magazines what they are reading about, to watch in every way their interest. In line with that, this fall I am offering a class demonstration in 30 Minute Dinners. Women want to have some menus at hand which they can prepare in a short time, when they return late from a club meeting, or other social diversion. Business women too, who are keeping house have need of such menus. I have planned twelve dinners, which will offer four courses of delectable food, and will take just thirty minutes to prepare from the time they step into the kitchen until they announce dinner.

Miss Heasty Arranged a Special Lesson in Cuts of Meat With the Neighborhood Butcher

This means, instead of going to the restaurant for dinner, they will go into their own kitchens and prepare nourishing, delicious, home cooked food. I was able to make this 30 Minute Dinner attractive enough so that the Chicago Evening American is featuring it each week. I am also broadcasting it in the morning of the day I demonstrate the lesson.

Sewing Classes

Last spring and again this fall we have held classes in sewing which have proved a popular special morning class. We have even broadcasted these lessons successfully, arousing a great deal of interest. With every sewing lesson we give an oven dinner which may be slipped into the oven to cook for two hours, giving a period of uninterruped time to the homemaker for sewing. Women with large households particularly appreciate these lessons. There is a growing demand for consultation on sewing problems, and every woman who comes into the office goes out with the help she came for, and a handful of new recipes.

Mrs. Farquhar Takes Her Class to the Park, Demonstrating Home-Packed Lunches

It is the business of every Home Service Director continually to freshen her program with new material which is in line with the current interest of the women in her community, to make housekeeping attractive to indifferent women, to make them see as a joy, not a job, and always to sustain the underlying story of good home cooking, where the gas range functions three times a day to full capacity. More than that, she must be a jump ahead of everybody else in her department.

Use of Gas in Heat Treatment*

Discussion of fundamentals of heat treating steel

M. M. Austin

SINCE several of the papers in the series of which this is a part have gone into the subjects of combustion, gas application, furnace design, and comparisons of heat sources, these subjects will be omitted here. The principal object of the paper will be to instruct in the fundamentals of heat treating theory and practice. Specific advantages and limitations of gas compared with other sources of heat will be pointed out as the discussion proceeds, but the principal emphasis will be upon the effects of heat on steel.

That those interested in extending the use of gas may appreciate the possibilities of this field, it is enough to say that single heat treating installations are using as much gas as would be required for domestic purposes by a community of 60,000. The ease of application, high thermal efficiency and general convenience characteristic of gas applies in full force in the heat treating field. The author does not believe that gas of normal composition or the combustion products of such gas can have any detrimental effects upon steel. Surface oxidation, decarbonization and carbonization are under better control where gas is the fuel than in any other case.

To those interested in covering a broader field, or in obtaining more detail than is possible in this brief treatment, reference is made to such excellent books as Bullens' "Steel and Its Heat Treatment," or Jeffries' and Archer, "The Science of Metals." The former is a most readable book on treating room problems, while the latter is a more advanced and more theoretical book dealing with metal behavior.

General Discussion

Although the general subject of heat treatment includes non-ferrous alloys as well as steel, space will permit of but a very brief discussion here. Annealing, which is the most important heat treatment applied to non-ferrous alloys consists simply in heating the metal to some predetermined temperature and then allowing to cool slowly. Temperature and time factors are different for each alloy. The object usually is to soften the metal, as in the case of sheet, wire, and tubing that has been hardened by cold working. The reason for the hardening of the metal by cold

* Delivered as a lecture before the Illinois Industrial Gas Course, University of Illinois.

working is that the grains are disarranged, distorted and broken up. Plate 1 shows the distorted condition of these grains in the cold worked metal and the way in which they rearrange upon being annealed. In this latter condition the metal is relatively soft. The ease with which uniform temperatures and non-oxidizing atmospheres can be maintained by using gas as a fuel makes it very desirable for this purpose.

Turning now to the larger field of steel treating, it may be of interest to the gas man to know something of the history of its development and the reasons for heat treating. The present tremendous application of treated steel parts has come about largely through demands of the automobile industry. Automobile engineers have required steel having a maximum of strength for a minimum of weight. They have also required steel having great wear and fatigue resistance. The result has been that all of the parts subject to wear as well as many of the structural units are now given heat treatment. Another large application of heat treated steel in the automobile industry is in the production of dies, jigs, and cutting tools of every possible description.

Value of Heat Treatment

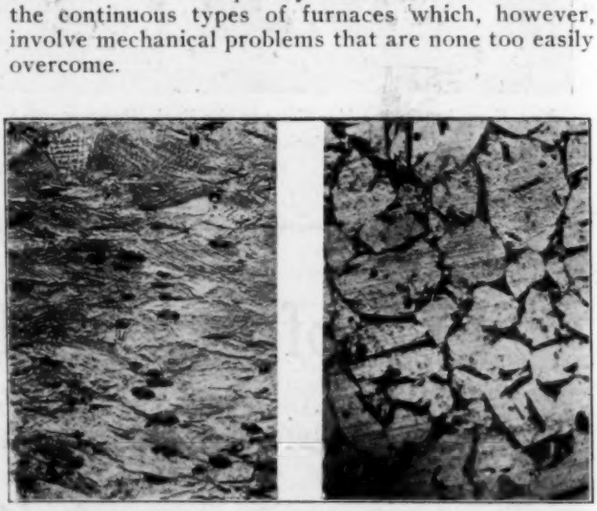
To make clear the valuable effects of heat treating, the following illustrative figures are given. A steel that in the raw condition would have a tensile strength of 80,000 pounds per square inch and an elongation of 30 per cent would, after heat treatment, test 100,000 pounds with the same or slightly diminished elongation. In the raw condition steel would be entirely unsuited for use as gearing, shafting, bearings, tools, etc.

Heat treating proper is carried out in furnaces of a variety of forms. Three fairly distinct types should be mentioned. In the simplest form a combustion chamber is provided with a flat refractory slab upon which the steel is placed for heating. An improvement on this design has a hearth with protecting slabs on either side, while a third form uses a completely enclosed space in the shape of a refractory muffle.

The difference in operation of these types is in the uniformity with which the work may be heated. A tendency for overheating at the edges is partially overcome by the second or semi-muffle type. In the semi-muffle and plain slab furnaces it is the usual practice to provide burners which project flames over and under the working space and it is very important in these cases that the furnace load should not extend up to a point where the flame will impinge directly upon it. In such an event a disastrous overheating of part of the work would result. Uniformity of temperature throughout the working space, proper loading of the furnace, and gradual heating of the load are of the utmost importance, and furnaces must be handled so that these conditions are maintained. These conditions are most easily met in furnaces provided with a completely enclosed muffle. The muffle arrangement has, however, the disadvantage that the heating efficiency is lower and repair costs are higher.

Uniformity of Temperature

In checking uniformity of temperature throughout the charge, one should not fail to take advantage of the ease with which temperature differences can be determined by sight. An operator can tell at a glance whether different parts of the furnace or work are all at the same temperature. When this is not the case burners should be adjusted or the manner of loading changed. Overloading of the furnace always results in much lower temperatures at the center than on the outside and must be overcome by using smaller loads of slower rates of heating. Such difficulties are less frequently encountered in some of the continuous types of furnaces which, however, involve mechanical problems that are none too easily overcome.



Distorted Grains of Cold Worked Brass *Regular Grains of Annealed Brass*

Plate 1

Furnace atmosphere, which is an important consideration in all heat treating operations, and has to do with the extent to which the steel will be oxidized is under excellent control in the case of gas-fired furnaces. By proper adjustment of gas and air slightly oxidizing or reducing conditions can be maintained and the work turned out with the best possible surface finish. In general, oxidation is to be avoided, since it not only produces scale but removes carbon from the surface as well. This decarbonized surface must necessarily be softer than the interior of the piece which in many cases would be a serious fault.

Occasionally too little oxidation may result in unsatisfactory work. This is the case where the scale produced is not of sufficient thickness to crack off on quenching. Thus very rough surface is produced and the work appears much more severely oxidized than it really is.

Measuring Temperature

Temperature measurement in treating operations is now universally intrusted to pyrometers, mostly of

the thermocouple type. Modern installations are thoroughly reliable, older ones may not merit much confidence. Without going into detail the author would like to make the point that these instruments are complicated, delicate and are less thoroughly understood by workmen that most of the equipment with which they have to deal. It is important therefore that they be carefully and sturdily installed and thoroughly protected so that they will require but little attention. A particularly important point in their application is the fact that the "fire end" or hot junction must be in contact or in very close proximity to the work in order to give any very accurate measure of its temperature. A thermocouple projecting but slightly through the wall or roof of a furnace may record temperatures as much as two hundred degrees different than the actual temperatures of the load at the time. Here again your attention is called to the desirability of checking temperature conditions within the furnace by the unaided eye.

The Human Element

The human element, a large factor in the successful operation of a treating room, is one very often neglected. This is particularly true in small establishments and it is often the case that fine painstaking work turned out by experienced machinists is turned over to inexperienced and ill informed workmen for heat treating. The result is that the material is partly or completely ruined. Although older men in the business may turn out good work by relying upon their skill and experience, the younger generations must supplant a partial lack of this skill by a liberal amount of theoretical knowledge on the subject and by the careful use of pyrometers. Fortunately a large amount of mystery and secrecy which has shrouded this subject in the past is fast disappearing.

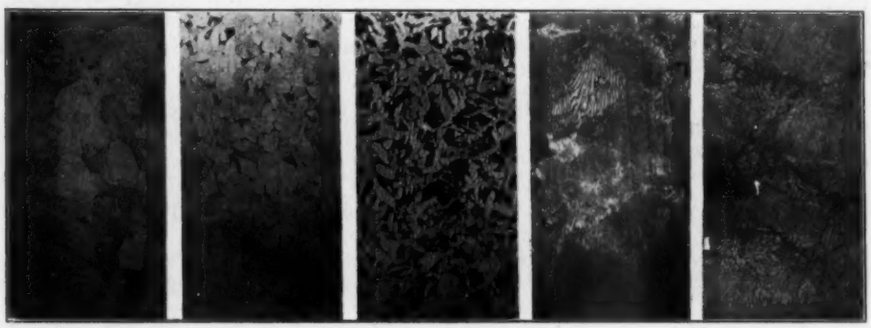


Plate 2, left to right: Ferrite; 0.2% C. Ferrite and Pearlite; 0.5% C. more Pearlite; 0.8% C. All Pearlite; 1.2% C. Excess Cementite

The Nature of Steel

Practically all of the properties of steel whether heat treated or raw, plain or alloyed, can be explained with reasonable completeness by referring to the effects of the varying proportions and conditions of the carbon in it. Since the internal structure can now be very clearly shown by means of photomicrographs of prepared sections, reference will be made to a number of them in the following discussion.

Plate 2 shows the internal structure of annealed (slowly cooled) steel containing 0, .20, .50, .80, and 1.2 per cent of carbon respectively. It will be noted that the .2 per cent carbon alloy is made up of large light grains and small dark ones. The dark grains are absent from the pure iron and are very much larger compared with the light grains in the case of the .5 per cent steel. In the .8 carbon alloy the whole section is made up of these dark grains. One should reason at once what is known to be a fact that the light grains are pure iron and that the dark grains are some combination of carbon with iron. Higher magnification of the dark grains will show that they themselves have a peculiar structure.

Nature of Structure

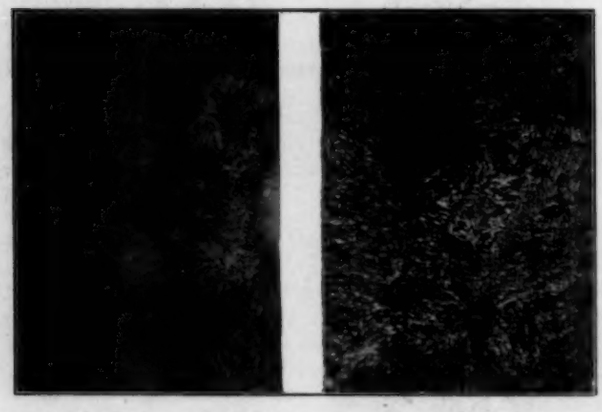
This structure resembles a finger print in appearance and is made up of leaves of a very hard iron-carbon compound laid upon leaves of pure iron. Metallurgists call the lighter or pure iron grains "ferrite." The iron-carbon compound is called cementite and the interleaved combination of cementite and ferrite is called pearlite. These dark areas or pearlite always contain .8 or .9 per cent carbon and the steels having this amount of carbon will therefore be made up entirely of this constituent. Steels having less carbon will always have some ferrite or white grains, and the amount of this ferrite will gradually decrease as the carbon in the steels is increased. In the case of steels containing more than .9 per cent carbon a second constituent appears. It is made up, however, simply of excess cementite and is of little importance in heat treating theory.

The last photo of plate 2 shows the microscopical structure of a 1.2 per cent carbon steel with some of this excess cementite outlining the grains of pearlite. This photo also shows quite clearly the banded nature of pearlite. All of what has been said to this point refers to steel that has been annealed or "normalized," that is, heated to a red heat and allowed to cool slowly as in a furnace with fuel turned off. Very slow cooling, say over a period of ten hours, produces an entirely different structure particularly in the steels of 1 or more per cent of carbon. This condition is very commonly encountered now in annealed steels for files and other tools that must be machined to form. It gives the softest possible condition for a high carbon steel. If the 1.2 carbon steel shown in Figure 7 be heated for

10 hours at a proper temperature or be allowed to cool very slowly in a large furnace it will take on the new structure mentioned above and will appear as in the first photo of Plate 3. In this case the leaflets of cementite have gathered together in rounded pellits. The net result is a matrix of ferrite with pellets of cementite inbedded in it.

Properties of Ingredients

In properties, ferrite is soft and ductile, while cementite is hard and brittle. Pearlite is hard, stiff and slightly ductile as might be expected, judging by its makeup. Combinations of ferrite and pearlite such as are encountered in steels of .1 to .7 per cent of carbon have properties intermediate between the two. Thus we see how and why hardness of annealed steels increases in fairly direct proportion to the carbon. We should also have a clear picture of the makeup of annealed steels which should enable us to understand more easily the effects of heat treatment.



1.2% C. Globular Cementite *Quenched Steel*

Plate 3

Reviewing briefly, we have pointed out that iron is not a structureless material as might appear from a casual examination, but is made up of very minute grains which are visible only under the microscope. These grains are all alike in the case of pure iron, but a second kind of grain appears as soon as any carbon is present. The carbon containing grains increase in size as the amount of carbon in the steel increases and since these grains are harder than those of pure iron, the effect of increased carbon is an increase in hardness even when the steels are in the softest or annealed condition. These facts are important in that all steel is in this soft annealed condition before heat treatment and the effects of heat treatment are due to modifications of this structure.

Thermal Critical Points of Steel

The thermal critical points of steel, though of considerable importance in any study of heat treatment, are, we believe, given altogether too much attention. Very briefly, it is a fact that pearlite (made up of leaves of ferrite and cementite) at a temperature of about 720 degrees C (dull red) suddenly changes into a homogeneous structureless constituent. We say that the ferrite and cementite (iron carbide) dissolve in one another to form a solid solution. When this change is taking place, heat is being taken up by the metal and therefore if a piece of steel is heating at a uniform rate a halt will occur when this critical temperature is reached. Upon cooling, the process reverses and the solid solution splits up into ferrite and cementite. In this case heat is given off instead of being absorbed. It sometimes happens that this change is slow about starting, with the result that the steel darkens and then brightens again.

It is from this brightening that the term "recalescense point" originates. Steels of less than .8 per cent carbon are made up of both ferrite and pearlite. In such cases the pearlite changes over to a solid solution and then this solution begins to take up the excess ferrite and continues until all the ferrite is dissolved. The reverse process takes place on slow cooling, that is, the ferrite begins to separate at a certain temperature and continues until the remaining solution has reached .8 or .9 per cent carbon. This remaining solution then decomposes to form pearlite. The change from pearlite to solution and back always takes place at much the same temperature no matter what the carbon and is called the lower or pearlite point.

The temperature at which ferrite completely dissolves on heating or at which it begins to appear on cooling varies with the carbon, being lower as the carbon increases. It is called the upper critical point. It is important to note that the critical points obtained on heating are at somewhat higher temperatures than are those obtained on cooling. In other words the physical changes taking place at these temperatures show a marked sluggishness. Note also that the critical points obtained on heating indicate when these changes are complete and are, therefore, the ones that must be used as a guide in heat treatment. In the case of the alloy steels these critical points are shifted somewhat in temperature and often made very much more sluggish. Fundamentally, however, the theory for their behavior is the same.

Heating Treatment and Structural Change in Steel

We see that the structural nature of steel at high temperature is distinctly different than it is at ordinary temperature and that the change from one of these structures to the other is somewhat slow in coming about. A partial or complete shifting from one of these physical conditions to the other ought to give quite different properties to the metal. This is exactly what is accomplished by heat treatment. Upon heating, the carbon and iron are caused to merge into a complete solid solution which is more or less completely retained by quenching. The microstructure of such a steel is shown in the second photo of plate 3. This modified metal is perfectly stable at room temperature and its hardness is thought to be due to a very fine grained condition

of the metal and a high degree of dispersion of the carbon. Reheating the metal following quenching results in softening and is explained by assuming an increase in grain size of the metal and a decrease in the degree of dispersion of the carbon. By heating slowly from 150 to 700 degrees centigrade the metal can be gradually softened and its structure slowly changed until the structure and softness of the original metal is reached.

Heat Treating Application

The principal operations of heat treatment for strength and hardness are heating, quenching, and drawing.

Heating should be gradual and uniform so that there will at no time be any great difference in temperature between different parts of the load. There is a tendency in the case of large pieces to try to heat them in furnace chambers that are too small. The result is that corners and projections become badly overheated. In the case of high carbon steel such improperly heated pieces are very apt to crack on being quenched. In the case of small parts that have been piled or packed in the furnace and are raked out into the bath when ready for quenching, the necessity for uniformity of temperature throughout the load is obvious. The temperature from which the steel should be quenched should be the lowest that will give proper hardness. Any heating above this temperature will injure the metal due to the fact that a large and persistent grain is produced. This will make it weaker and less ductile than it would otherwise be.

Treating High Speed Steel

High speed steel requires very much higher temperatures than do common steel and is less susceptible to overheating. It is, however, quite as susceptible to oxidation and is also easily scarred due to its softness when very hot, in this connection the gas man should note that the temperatures required are somewhat beyond the ordinary electric furnace and that gas makes a particularly desirable fuel for this sort of work.

Another factor in the heating operation is the atmosphere of the furnace. One that is too highly oxidizing will scale the work and remove carbon from the surface. The result is a softened and roughened surface. Gas fired furnaces are easily adjusted to give non-oxidizing atmospheres, a fact which constitutes one of their principal advantages.

Cooling or Quenching

Having heated the steel to a proper temperature and thus caused the ferrite and carbon to merge into a homogeneous solid solution, the next step is to partly fix this structure by rapid cooling or quenching. Both oil and water are used as quenching baths. Water produces the greater hardness, but also sets up severe mechanical strains within the pieces. Quenching for toughness and strength is usually done in oil since hardness is not the principal factor. It is obvious that a bath that has been heated to its boiling point will be less effective than a cool one and that oil baths which are constantly in use must be cooled in some way. Warping of pieces during heat treatment is often traceable to quenching practice and is usually due to the fact that the work is not introduced into the bath along some axes of symmetry. Shafting, for example, should be introduced end first. Such warped pieces may often be straightened in the hardened condition, although the operation is one that requires considerable skill.

Drawing

Drawing, the final operation of ordinary heat treatment consists in reheating the steel to a low temperature (150 to 400 degrees C) for a relatively short time. Heating is sometimes done in furnaces similar to those used in hardening but very much the most common practice is to use a bath of oil or molten lead. The effect of this second heating is to reduce mechanical strain set up within the metal during quenching and to increase toughness. This increase in toughness may often be obtained without sacrificing hardness. It is supposed that this gentle heating equalizes strain by allowing easier flow of the metal and that it modifies the physical properties by increasing the particle size of iron and carbon. The amount of change brought about by drawing is dependent upon both time and temperature and is often controlled by observing the coloring of a polished portion of the piece as it is heating. Heating at low temperatures and for short times produces a straw colored appearance which the heat treater recognizes as characteristic of the amount of draw which a very hard-tool should have. Higher temperatures and longer lengths of time give purple, peacock, and blue, while the steel becomes softer and softer. These surface colors are particularly useful since they seem to depend on time as well as temperature, both of which are factors in determining the degree of softness. Drawing is, of course, often controlled by means of a pyrometer, as it is a more exact and probably a safer method.

Annealing

Annealing, an operation entirely separate from hardening or drawing is most frequently applied to steel castings and to the better grades of steel which must go through some machining or forming operation. By heating the steel to a temperature above its upper critical point the ferrite and pearlite become one homogeneous solid solution and any structure that the metal may have had before heating completely disappears. Upon allowing the heated metal to cool slowly over a period of a number of

hours, new ferrite and pearlite grains are formed but now they are apt to be smaller and more uniformly distributed with respect to one another. Softer and more homogeneous metal results. In the case of fine steels, wire and sheet the annealing operation usually consists of packing the work in boxes thus protecting it against sudden changes of temperature and oxidizing furnace atmospheres. The heating up of these pots, to say nothing of their cost, is a large item of expense, and their elimination would be highly desirable. The control of furnace atmosphere and uniform application of heat that can be secured with gas offers attractive possibilities in all such cases where requirements are not too severe. In the annealing of steel castings the problem is almost entirely one of uniform heating and general economy of operation.

As has been pointed out in one of the other papers of this series, the total cost of the finished job; rather than the unit fuel cost; must be made the basis of judgment in any heating operation. It is frequently the case, therefore, that lower labor and maintenance, smaller wastage and better work will more than pay for a higher grade of fuel.

Diaphragms*

Details on making this important part of the meter

W. Griffin Gribbel

John J. Griffin & Co.

EXPERIENCE in the operation of gas meters has clearly demonstrated that the diaphragm is the weak link in the chain.

Thousands of dollars and hours and hours of time have been expended in the effort to discover a material possessing the necessary requirements, but up to the present time nothing has been found which better meets the demands of service than the hide taken from healthy sheep or lambs, and properly tanned.

Investigators in Germany have successively tried and discarded cotton, linen, and other vegetable fibre fabrics, synthetic leather, and even fabrics containing compounds of rubber, under a protective covering. Thus the factor of selectivity has largely controlled the final use of diaphragm material, and this extends moreover to the use of the selected material.

Selection of Skins Important

In order to get the proper raw material for the diaphragms, which our factory for one is producing, 225,000 dozen skins were handled during the year 1925. From this vast quantity of commercial skins, those suitable for diaphragm use were carefully sorted, being judged by their apparent condition in the raw state, and after the process of tanning had been completed, they were subjected to another more rigorous elimination, because the process of tanning frequently brings out defects in the hide which could not be discovered in the raw state. These selected hides are again sorted, and before being passed to the cutter, are examined by an expert who rejects hides he considers unfit for service, for any reason whatsoever.

In other words, in order to get one hide that is finally made into a meter diaphragm, six skins must be eliminated.

There are possibly few other commercial operations in which there is such a severe and careful elimination as in the above, and I believe we should carry this fact in mind in order to gain a clear conception of the effort made to insure against defective material.

Grazing Conditions for Sheep Important

Sheep who have suffered from skin diseases induced by insect bites, or other abrasions produced by thorns, cannot, of course, be expected to furnish hides that will show a large percentage perfect, hence climatic and grazing conditions under which flocks are raised have come to be almost a first consideration, and it has been fairly well established that hides from sheep raised in this country are not as good as the hides from the sheep of countries where the grazing conditions are more gentle.

New Zealand hides, and those from certain portions of Australia can be expected to show up with a better percentage.

Another consideration which must be recognized as bearing upon this problem is the method employed locally in removing the wool, and in taking the pelts from the butchered animal. Undue haste resulting in knife-cuts is a prolific cause of rejection.

Converting Hide Into Finished Leather

There are several methods employed in converting the raw hide into finished leather, and only an open, roundtable discussion between expert advocates of these various methods of tanning would bring out

* Atlanta meeting, Gas Meter School.

the practical differences, and the advantages or disadvantages identified with each process. There is no unanimity of opinion on this matter, and I hesitate to too strongly endorse one method at the expense of the others, beyond saying that I am informed that the old method of vegetable tannage, with some modern chemical modifications, seems to be best in the long run. This, of course, involves the basis of hemlock or oak bark.

The element of selection again looms very large in the use of the other materials in diaphragm construction. I know of at least five methods of binding the finished diaphragm to its tin hoops, that are being advocated today throughout the world. These consist of various combinations of cement, wire, and the wedge principle, but none of these has as yet displaced the use of carefully selected long-fibred flax, the supply of which has been sadly depleted since the war, due to the destruction of the Belgian flax fields, and a considerable dimunition of the Russian supply.

Examination of Binding Twine

The most careful examination is required today in order to insure the production of a twine of sufficient tensile strength, smooth finish, and high co-efficient of elasticity, and even with the best twine available, shellac must immediately be used to crystallize the binding, before fatigue of the binder occurs.

There are several methods of tying on the diaphragms in practical use today, which have shown to advantage over the old hand-tied diaphragm, which was standard for so many years.

Some of these methods provide for the rotation of the chuck mounted, diaphragm hoops allowing the pleating, under a preliminary binder to be accomplished by the operator. Others go much further than this, and in our own factory for instance, by far the greater numerical number of all sizes of diaphragms are pleated and tied on completely by machinery. The operator's function is limited to placing the hoops on the chuck, laying the diaphragm properly on these hoops, starting the twine, and, after cutting at the knot, removing the finished diaphragm, which is then ready for shellacking and oiling.

Diaphragm Leather Should Not Touch Metal

We believe that it is unwise to allow the diaphragm leather to come in direct contact with the metal, and to accomplish this all diaphragm hoops are covered with a thin strip of skiver sheepskin, being gummed to the hoop with shellac, and again coated with shellac, in order that the final binding twine may more snugly adhere and bite into the leather covering, minimizing the probability of leakage.

There is a very decided advantage claimed for machine pleating in the elimination of the unevenness characteristic of hand work. You will see immediately that a diaphragm, in which the crimping is unevenly accomplished at opposite points on the two hoops, will show a tendency to pull the deeper pleats, and the two hoops of this diaphragm will not fall concentric. This may easily result in what is known as a "locked diaphragm" unless great care is used in installing the diaphragms in the meter.

One of the most important cares in tying on diaphragms is the maintenance of a uniform tension in the twine, and certainly the use of well maintained mechanical devices tends to get this result.

Making the Rings

The tin plate from which the rings themselves are made, is not of the sort that can commonly be found in the market. The basis is open-hearth steel with the billet hammered down to about one-half of its original size, then carefully rolled to gauge, and coated with purest tin. This material is, of course, thinner than that used in the walls of the meter, and yet it must offer the same resistance to rust and other corrosions. Solder should not be depended upon solely in binding the ends of the hoops, without the use of some locking device, and the flux used must be free from acid content.

One of the most interesting comments that I have ever heard, and which was expressed as a criticism of diaphragms, is the complaint against the presence of more than two seams in a diaphragm. If you will pause to consider this matter you will see that the presence of seams tends to prevent collapse of the diaphragm, and also represents an expense to the manufacturer which it is his business to avoid in the selection of the leather.

It is now generally admitted that the presence of wires in the diaphragms of larger size meters, to guard against collapse of the diaphragms, is a definite menace and can be expected to do so much harm in chafing the leather as to outweigh its primary function in preventing collapse. Hence the presence of stiffening seams in the large size diaphragms is a distinct advantage and the diaphragms should always be so placed that these seam ribs show at the top of the diaphragm.

Machine-Sewed Diaphragms

The constant effort by the sewing machine manufacturers to perfect diaphragm sewing machines has resulted in a gradual swing to the machine-sewed diaphragm, in preference to the old and long established hand-sewed article.

When these machines first made their appearance, they failed to do proper work, and the instances of the needle failing to enter the leather, (due perhaps to glaze on the grain side), or passing completely through the leather, were numerous. Gradually this has been corrected, and today, subjecting the under side of all sewed seams to a partial vacuum, and applying pure orange gum shellac to the upper side almost always results in such a plugging of the needle holes as to insure an exceedingly high percentage of gas tight seams.

Where formerly we felt that the hand-sewed diaphragm, tied-on and pleated by machine, was the best article, we are now beginning to believe that the machine-sewed diaphragm, subjected to this vacuum packing, and also tied and pleated by machinery, is preferable.

Diaphragm Demands Great Care in Making

I do not believe that any department of meter construction has demanded more care than the diaphragm, and this is not remarkable either in the face of the fact that the diaphragm is practically the first link to break.

The heavy demand not only for new meters, but for the diaphragm requirements of the large meter repair shops, which has reached a peak for all time during the last two years, has to a certain extent made it difficult to give the finished, oiled diaphragm the seasoning which was formerly thought imperative. And while this has perhaps occasioned diaphragm failure in some instances, where the local conditions were less than good, it has shown conclusively that diaphragms do not really need the fourteen months of oil soaking that was held necessary.

Oil Soaking

Diaphragm leathers are not thick—generally speaking—and it now seems that ninety days of oil soaking does in reality result in every fibre of the leather being reached by the oil.

After this is accomplished, a further saturation may well tend to weaken the structure of the leather, and cannot reasonably be expected to lessen the rapidity with which the oil can be sucked back out of the leather by dry-hungry gases which have been stripped of their lighter oils as a result of by-product utilization.

After the oil has gone all the way in, staying there longer has little or no bearing on what the avid thirst of a hungry gas can do in speedily sucking the oil out again. Oil is not glue.

Oil Rotting

We are influenced in this conclusion by the well known fact that where oil is introduced into the diaphragm compartment, i.e., "dipping," and where this oil develops a skin due to its chemical reaction on exposure to certain compounds in manufactured gas, that portion of the diaphragm beneath the skin, and kept constantly in a saturated condition has been known to rot away completely.

This oil rotting must not be confounded with the more frequent deterioration caused by the presence of hydrogen-sulphide and sulphur iron salts, acid in nature, which directly attack the original structure of the leather.

No better discussion of this subject has ever been offered, and I realize that this is a strong statement, than the address before the Eastern States Gas Conference, on April 12th, 1923, by Mr. W. H. Fulweiler, Chemical Engineer of the United Gas Improvement Company. I shall be glad to furnish illustrated reprints of this discussion on application, and I strongly recommend that it be carefully studied.

Oil Being Constantly Investigated

The oil used to saturate the leather and to help it resist the attack of corrosive elements in manufactured and even in natural gas, is meeting with constant modification as a result of careful research.

The prime requisite is that it shall be free of sulphur, and at the same time be sufficiently sluggish to stay with the leather fibre as long as possible.

It is interesting to know the progress made in this direction here in the United States has so strongly appealed to the gas engineers of Great Britain, that in some instances even the meter manufacturers of Great Britain have cried quits and are purchasing their diaphragm oil from American sources.

It will of course be understood that most of the above represents the personal views of the writer, and are naturally subject to modifications of further experience.

No one man can claim that he has ever seen the time when he was all right and the other fellow was all wrong.

SHEFFIELD NOW GOFFING AND MOODING WITH GAS

The first iron-age man who hammered out a crude knife from a lump of ore over a fire was goffing, also mooding and flying out, though he doubtless used other terms.

Goffing is a generic word for the processes of knife-making, and according to a report from Sheffield, England, home of famous knives, the largest and oldest goffing establishment there has recently given up its ancient coal furnaces and has replaced them with automatically controlled gas heat.

To mood is to heat one end of the steel rod and therefrom to stamp out the rough outline of the blade. A second heating follows, when the bolster, or flange at the end of the blade, is formed. Then the tang is drawn and the blade is beaten to an edge. Flying out follows, in which process the rough edges of the knife are trimmed away.

More than three hundred operations are required to finish a knife, in most of which temperature precision is of paramount importance. It is for this reason that gas is rapidly taking the place of coal, since gas heat can be controlled within narrow limits.

When the blades are finished they are hardened at a temperature of 950 degrees centigrade, and are tempered by being raised again to 200 degrees centigrade and plunged into water.

The use of gas has made it possible for two men in a seven-hour day to harden and temper nearly one thousand knives.

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SAFETY RULES FOR GAS EMPLOYEES

The Arlington Gas Light Company, of Arlington, Mass., has issued a booklet containing "Safety Rules for Gas Company Employees," These rules are divided into four parts. The first part contains safety rules for the Service Department; the second contains safety rules for the Street Department; the third part contains safety rules for Works Operation, and the fourth and last part contains safety rules for Works Maintenance.

National Advertising and Local Selling*

The two should go together in a merchandising plan

W. S. Woodbridge

Advertising Manager, The Bryant Heater & Mfg. Co.

THE amount of policy which enters into a gas company's activities is almost overwhelming.

One of the policy features which gas appliance manufacturers are constantly bumping into is the policy of being absolutely fair in the amount of selling effort which the gas company will devote to two or more competing appliances, when the gas company nominally sells or recommends both.

Of course we all want fair play. But this fairness can very easily be carried to a most unprofitable extreme.

It's not at all unusual for a gas appliance manufacturer to recomment a thoroughly proven merchandising plan; to have the gas company heartily agree that the plan would unquestionably be very successful and profitable for them to use, and yet have the plan turned down simply because its use might lay the gas company open to the accusation of bias in featuring one particular appliance more than its competitors.

It hardly serves your best interests to turn down one gas appliance manufacturer's sales plan merely because his competitor hasn't got an equally good plan.

Competition in Advertising and Selling Ideas

Assuming two appliances of equal merit, why not let the manufacturers compete on advertising and selling ideas?

A nationally advertised selling appeal, or trade name either for that matter, is a highly valuable thing, from the point of view of local selling effort.

There is nothing undignified in mentioning manufacturers' names in advertising. Banks do it and railroads, and practically all other great concerns which are generally regarded as highly dignified organizations. If a bank is selling A B C travel checks they make no bones about the name A B C. They advertise them as A B C travel checks and tell you to use them to see the world. They can sell more travel checks by saying, "See the world on A B C travel checks", which already has a nationally advertised background—than they could by saying, "We offer you any kind of travel checks you want. They are all very good and all very convenient to carry".

Even high grade restaurants feature trade names of food products. Kugler's of Philadelphia does. So does Broztell of New York. The Terminal Lunch Co., of Muncie, Ind., claims to have worked up the largest pancake business of its career by announcing on their menus that their pancakes were made from Aunt Jemima pancake flour and were served with Log Cabin syrup. That's definite. You feel right away that you know that it's good.

A restaurant was selling a certain number of lemon pies each day. They started labeling the pies with cards saying that they were made from the pure juice of Sunkist lemons. Sales immediately doubled.

Advertising Slogans Produce Results

And so on. The concerns, great and small, who are carrying national advertising slogans and names into their own local advertising and selling efforts, not for friendship's sake, but because it is such a highly profitable thing for them to do, are almost endless.

Advertising in national magazines is really only a part of local selling. Too often national is looked upon as a complete activity in itself. This is not so, at least in the case of most successful national advertising campaigns. National advertising is only the ground work which develops the market; builds a background of tried and proven success for the more intensive local advertising and selling activities.

I doubt if there is a man in this room who bought his automobile solely because of the selling power contained in a national magazine ad. I also doubt whether one of you bought his car solely because of the selling power contained in the advertising of that car's local representative. Or because of the unsupported recommendation of a friend, or entirely because of the salesmanship of the man who sold the car.

All Factors Combined Exert Latent Influence

It is the combination of all these influences which is so highly convincing—the influence of the manufacture who makes and sells his products nationally, the influence of the local organization who knows the local conditions thoroughly, the influence of the friend who knows the service the products have given others—and the salesman who uses all these influences to lure the dollars from the prospect's pockets.

One of these selling influences can work alone, but only under a terrific handicap. Two or three pulling together can generally manage to get somewhere, but the truly successful system is when all four influences are working together in perfect accord.

The use of a nationally advertised selling appeal

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* Delivered at the 1926 convention, Pacific Coast Gas Association.

applies not only to local advertising but also to the appeal which the salesman should make in his approach to the prospect.

I hope you will notice how religiously I have avoided advertising our name and product. But I can't keep it it out any longer. Banks and railroads and restaurants are too much out of my line, after all it is these specific instances within the gas heating business which we know best.

The Gas House Heating Prospect

Consider the case of the gas house-heating prospect who responds to an advertisement in the Saturday Evening Post. A few prospects, of course, will write in direct to the factory. But the vast majority will not. Some will come to you. But most of them will take no action whatsoever. They may be keenly interested, but it is so very very easy to put off getting in touch with anyone at all.

Bryant national advertising tells the prospect that a really good automatic gas heating plant needs no more care or attention than a pup can give it, and that this finest of heating service is well within his reach.

If his local gas company's house heating campaign is based, for example, on the facts that a good gas heating plant costs less to install than a good oil burner—while this fact may be true and is in itself a highly efficient selling plan—nevertheless it is an entirely different angle of approach and really means starting to sell the prospect all over again.

How much more effective it would be were the gas company's advertising and selling efforts to be a continuation and enlargement upon the appliance manufacturer's original appeal.

I don't mean to infer that I believe that the utopia of gas company merchandising is gained by taking the appliance manufacturer's stock advertising features or stock advertising cuts and using them in your own local efforts regardless of how they fit local conditions.

Using the Local Appeal to Tie in With

But every national advertiser has or should have some carefully thought out appeal around which his entire advertising campaign is built.

Take this appeal and adapt it to your own plans. Change it to suit your own conditions but keep the basic motif, if it is a really good one, as the central theme of your advertising and selling.

If the competitor of that appliance manufacturer feels that you are biased and showing preference that is not based on the actual merits of the goods themselves why let him work out a better advertising and selling appeal and convince you that it will be more profitable for you to use his ideas.

Blazing the Trail*

The utility industry a fine field for women

Mary E. McKelvy

I AM glad to have this opportunity to tell you about the work women are doing in our great public utility industry.

Not long since one never heard women mentioned in connection with public utilities, but the fact is that there have been women in the utility business for a long time, but they were, like our old conception of good children—"seen but not heard"—a dormant possibility which is fast growing into a recognized asset.

It has been said that "It's an ill wind that blows nobody good." We all recognized the fact that the world war was a terrible calamity, but it was the compelling force that gave women a chance in industry.

Prior to the war, there were comparatively few women in utility lines, but when our men were called into service, women came into the ranks.

In the beginning, these positions were largely unimportant ones, and the women were pitifully handicapped on account of a lack of training, yet the majority made good.

Women Employed in Many Capacities

The utilities now have women that they are using in many capacities. One company has a woman president. In another company, the manager and vice president are women. There are women secretaries, engineers and draughtsmen, accountants, and on the security sales force, advertisement writers, home economics specialists, demonstrators of appliances, educational directors and research workers—even women operators; besides innumerable steno-

(Continued on page 313)

* Address made to the Missouri Utility Convention at Springfield, Missouri, April 4, 1926.

As The Journal Views It

IS THE VALUE OF GAS UNDERSTOOD?

Gas men have passed the stage where they have been inclined to feel doubtful regarding the value of gas, and the position that the gas industry must eventually take in the industrial world. It is no longer necessary to urge gas men to develop a correct understanding of the value of the product that they manufacture and sell. The great majority of us are thoroughly sold on gas, and understand well the field in which the gas industry operates, and the extent to which the gas business can eventually be extended. Of course, there is still a certain amount of hesitancy on the part of some of us to plunge into this increased load movement and take all the business we can get.

There are many local conditions which affect the local company, which might be entirely absent elsewhere, and no company is wisely managed that will base the administration of its business on purely general principles. It must be remembered that after all, the conditions that exist in a community must be taken into consideration in developing new business. However, we all agree that the gas business is bound to increase, that the gas load must become greater. For it is unquestionably true that a great many new uses are being developed for gas, not only in industry but in the domestic field as well, and that the gas company is being put in position where it must take on additional load. The only question that remains is, how to assure this load and adjust operating conditions so that the company is not put in a disadvantageous position.

While we are ourselves sold on gas and its future, this is but the first step in the campaign. It is necessary that the community, as a whole, be convinced of the advantages of gas and of gas service, before real progress can be made. The efforts of the gas industry today are directed toward that end. The public is being educated to understand what gas is and what gas can do for it. The industry is being gradually and thoroughly convinced that gas is the real industrial fuel, the one on which the industrial plant can always count, and in the last analysis, the one that will give the best results at the lowest cost.

This appears to be a very favorable analysis of the gas situation, and we believe that it is generally true.

There may however be some who still believe that electricity is the better fuel for industry than gas and that oil has certain advantages with which gas is not endowed. But these are isolated cases. As a general rule almost everyone can be convinced that except under very special conditions gas is the superior and more economical fuel.

Every now and then we read in newspapers editorials and notices regarding gas, and within recent times it has become pretty well established that the public is beginning to realize the real significance of this fuel. We do not have to look to large newspapers in large cities like New York, Chicago or Philadelphia for corroboration of this fact, for the smaller newspapers in smaller cities are also publishing statements and editorials which indicate that they understand the situation just as well. It is thus rather gratifying and encouraging to read the editorial which appeared in the Tampa Daily Times which follows; it is a very good example of the favorable newspaper publicity that the gas industry is enjoying at the present time.

"Fifty years ago lighting was practically the only use to which gas could well be put; to take away the lighting market would have been to destroy the industry.

"But the same inventive genius that has developed the electric light as a substitute for gas, has found so many other uses for gas that no business on earth is on a more sound basis or growing more rapidly than gas. Cooking, heating, incineration, ironing, refrigeration, water heating, clothes drying, are but a few of the major uses. Its use in manufacturing is increasing at an enormous rate as its efficiency, cleanliness and labor-saving advantages become better understood."

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

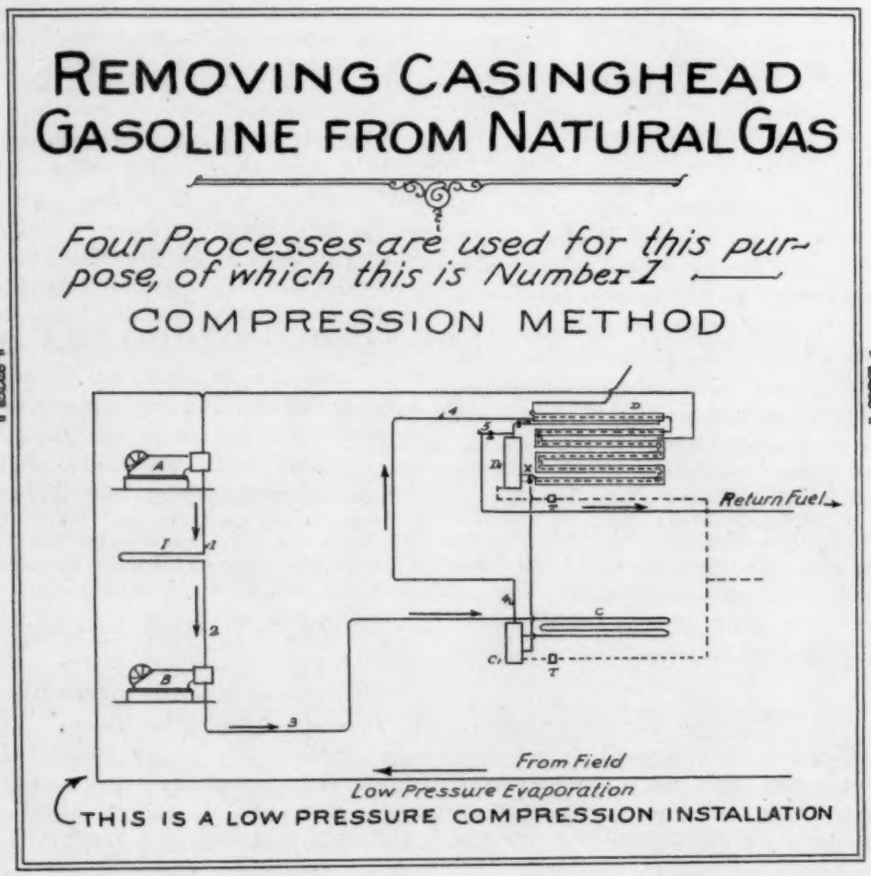
Lesson No. 139

Combustion

Removing Casing-Head Gasoline From Natural Gas

There are in all four (4) different methods for removing the casing-head gasoline from natural gas. The first of these is known as the compression method. It consists in compressing the slightly cooled natural gas, which results in the separation of gasoline from the aforementioned gas. This method was the first to be used for this purpose, and for this reason it still is the one that is most extensively employed.

In the accompanying illustration there is shown a layout for a low pressure compressor installation. "A" represents a vacuum pump which gathers the natural gas in the field. "B" is a single stage compressor. The gas from "A" passes through inner



cooled coils by means of line 1 and by means of line 2 enters the compressor "B." From the compressor it passes through the line 3, through the coil "C" and into accumulator "C_1."

In the accumulator any gasoline that may be condensed at this pressure and temperature is collected. The gas then passes through line 4 into the double pipe coil "D," and after passing through this it enters the accumulator tank "D_1." There another part of the gasoline is condensed and collected. The dotted lines in the figures show the pipe system used for removing the collected gasoline.

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BLAZING THE TRAIL

(Continued from page 310)

graphers, telephone operators and clerks. Their influence in the organization is very great, and to those who possess the right qualifications and the willingness to work, there is no limit to their opportunity. It is highly desirable to have these women in our industry, because public utility service so directly affects the homes of our people, and the women who are the homemakers. It has been estimated that 75 per cent of our customers are women. It is the woman in the home who is the arbiter on all domestic matters, and it is she who must be satisfied when it comes to the respective services which we give to the comfort of that home.

A Field Well Suited For Women

It takes a woman to understand a woman's point of view. We need women to talk to other women in women's language, and we should be untiring in our efforts to bring to the women in our industry that complete knowledge and understanding that will help them in their daily contact with women outside the industry, not only to combat false ideas, but to tell them the story of our industry which they are always anxious to hear.

Educational programs of women's committees in the utility industry teach the form of organization of the company, the duties of the various departments, the relation of the company to the public and the governmental agencies which regulate the actions of the company and the duties and responsibilities which the company assumed toward the public when it commenced business. The girls are told about the financing of the company and the manufacturing and distributing processes which constitute the utility's service. This is all intensely interesting and grows more so as one's knowledge increases.

Results Are Gratifying

The results of two or three years of intensive study in the electrical field are beginning to show. The women are not only improving their own work, but are getting a knowledge of the entire industry which is bringing them new inspiration and a greater appreciation of the work they are doing. There is a deeper loyalty to their fellow workers and to their company because of better understanding. The effect on the public of the employee's faith and trust in their company is valuable. Unjust criticism of the industry does not pass utility women uncorrected, and the company which can bring to pass such loyalty surely rises in the estimation of the public.

Another result is that the standard of the feminine personnel of the utilities is changing. Executives are expecting higher grade work, and women are meeting and often surpassing these expectations. The utility industry is being recognized as a branch whose women who are outstandingly well-informed and capable.

It isn't every business which offers a girl a job and along with it an education to help her to get a better job, higher pay and a greater opportunity for service. Perhaps that is why there is such an enthusiastic response from the women to this movement.

Focusing Energy

In one of the laboratories of Washington there is a great sunglass that measures three feet across.

It is like the burning glass boys use to treasure, only much larger. This great glass gathers the rays of the sun and focuses them on a single point in a space of a few feet below. That single point is hotter than a blow-torch. It will melt through steel plate as easily as a red hot needle burns through paper.

This terrible heat is just three feet of ordinary sunshine, concentrated on a single point. Scattered, these rays are hardly felt—concentrated, they melt adamant.

The same principle applies to human endeavor.

There are some 30,000 women in our women's committee today, all focusing their efforts on this preparation for service to their companies. Needless to say, this will vitally affect the industry.

Who will doubt that a substantial knowledge of the business, its policies, motives and problems in possession of all its employees, will yield appreciable dividends. The development of a corps of women who can take utility facts to the public may not bring back a direct profit, but it will help bring about complete public sympathy and understanding.

With these high class aims, constructive program and honest endeavor, we believe we are justified in asking for the support and cooperation of all men of the utility industry.

THE VALUE OF NEWSPAPER WORK TO HOME SERVICE

AT the Fall River Gas Works Company, Fall River, Mass., we feel that one of the most successful ways of reaching the public is through the daily papers. For this reason we co-operate with four of the newspapers here and write a column for one day each week, the same for all papers, which is usually published on the woman's page.

In these articles we always touch on seasonable recipes for each month as well as all holidays, for which we nearly always suggest suitable decorations, menus, and recipes.

In the spring and fall we give "Home Hints," easy meals for housecleaning time, and suggestions for ways to avoid that dreaded period of housecleaning, which always means an upheaval of all routine. Near the end of the year we run a series of articles on budgeting and try to prove the value of a budget in every day living. And of course at the same time we offer to help anyone work out a budget, if he or she will only come into the office and talk with us.

Occasionally we run an article giving some of the questions we are asked over the telephone and our answers. This not only explains for the benefit of others some of the problems that are bothering Mrs. Average Housewife, but it also illustrates to the women where they can get such information, free of charge, whenever they meet any household problems of their own.

The work is surely intensely interesting and the intimate personal contact with the women of the community is invaluable in planning new work. (Contributed by Marion Elizabeth Stark, Supervisor of the Home Service Department.)

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PROVIDENCE GAS CO. ANNOUNCES COOKING LECTURE SERIES

THE lessons are all free and open to anyone caring to attend either the whole series of courses, or separate lectures. The classes last one hour.

To obtain a certificate, one must attend all but two lessons of any one series (Meal Planning Course excepted), and report on the success of two dishes tried from every class attended.

The courses are given by home economists who have had both technical training and practical experience.

Calendar—Series I

Course XVI. Economical Cookery.

Ten lessons, one every Monday at 2:30 and 7:30, commencing September 20th. (The evening lesson duplicates that of the afternoon.)

September 20, 2:30 and 7:30—Grapes: Grape Jelly, Grape-juice, Grape Conserve, Spiced Grape Butter, Grape Sherbet, etc.

September 27, 2:30 and 7:30—Apples: Crab Apple Jelly with Variations, Apple-Mint Jelly, Apple and Quince Marmalade, Apple Brown Betty, Apple Roll, etc.

October 4, 2:30 and 7:30—Potatoes: French Fried, Creamed, Delmonico, Au Gratin, Lyonnaise, Spanish, Candied Sweets, Scalloped Sweets with Apples, etc.

October 11, 2:30 and 7:30—Sunday Night Suppers: Welsh Rarebit, Hot Cheese and Bacon Sandwiches, Orange Layer Cake, etc.

October 18, 2:30 and 7:30—Rice: A la Creole, Curry of Rice, Casserole of Rice and Liver, Croquettes, Imperial Pudding, etc.

October 25, 2:30 and 7:30—Cereal Dishes: Cream of Wheat Muffins, Salmon Loaf using Cereal, Fig and Nut Cereal Pudding, Indian Pudding, Chocolate Oatmeal Cookies, Grapenut Delight.

November 1, 2:30 and 7:30—Inexpensive Meat Dishes: Roasted Hamburg Steak, Beef Chili Con Carne, Meat Pie, Meat Casserole, etc.

November 8, 2:30 and 7:30—Steamed Puddings and Sauces: Date Pudding, Graham Pudding, Chocolate Pudding, etc. Sterling Sauce, Foamy Egg Sauce, Butterscotch, etc.

November 15, 2:30 and 7:30—Cranberries: Jelly, Conserve, Frappe, Cranberry Pie, Cranberry Steamed Pudding, etc.

November 22, 2:30 and 7:30—Thanksgiving Suggestions: A Turkey Dinner, A Roast Pork Menu, with accessories and desserts.

Series II

Course XVII. Meal Planning.

Seven lessons, one every Wednesday at 2:30 only, commencing September 22nd.

September 22, 2:30 only—School Lunches and What to Eat between Meals; Sandwich Fillings; Nut Muffins, Orange Circles, etc.

September 29, 2:30 only—The Home Diet: Principles of Eating. A Typical Meal.

October 6, 2:30 only—Home Diet, continued: Practical Menus with Recipes.

October 13, 2:30 only—The Children's Menu: Adaptation of Daily Menu to Suit the Needs of Children.

October 20, 2:30 only—Made-Overs: Mock Lobster Salad, Pot Pies, Macedoine of Vegetable Salad, etc.

October 27, 2:30 only—Better Meals for Less Money: Menus with Economical Main Dishes—Fish, Rabbit, Vegetable Roast, Braised Mutton, etc.

Nov. 3, 2:30 only—Dainties for Home Parties: Refreshments—Light Lunches.

Attendance at all seven lessons is required for the certificate. Also a report on the success of two dishes tried from every lesson.

Series III

Course XVIII. Girl Scout Cooking Course.

Ten lessons, one every Thursday at 4:00, commencing September 23rd. Each lesson lasts one hour, and the course covers requirements for Cook's Merit Badge. All Girls, whether or not Scouts, are eligible.

September 23, 4:00 only—Measures. Breakfast Dishes: Fruit and Cereals.

September 30, 4:00 only—Egg Dishes: Soft and hard cooked, Poached, Scrambled and Golden-rod. Beverages: Cocoa, Coffee, Tea.

October 7, 4:00 only—Table Setting. Breakfast Dishes, continued. Popovers, Twin Mountain Muffins, Baking Powder Biscuits.

October 14, 4:00 only—Dinner—Meat: Broiled Lamb Chops, Broiled Bacon and Uses for Left-over Meats.

October 21, 4:00 only—Vegetables: General and Special ways of cooking them.

October 28, 4:00 only—Desserts: Snow Pudding Soft Custard, Apple Tapioca, Chocolate Cornstarch, Baked Custard.

November 4, 4:00 only—Food Requirements. Supper or Luncheon Dishes, some of them using left-overs.

November 10, 4:00 only—(Wed.) Food Requirements, continued. Lunch Dishes: Corn Chowder, Celery Soup, Tomato Soup, Salads and Dressings.

November 18, 4:00 only—Menu Planning for Supper, Lunch and Parties. Cookies of all kinds.

November 24, 4:00 (Wed.)—Menu Planning, continued. Little Cakes of all kinds.

A Christmas Party will be held in the Auditorium for all girls completing this course. Remember the date,—Saturday, December 18th, from 3:00 to 5:00 o'clock.

Note: The practical work in this course will have to be done at home under the supervision of the parents and reported to the instructor. This is a requirement for the Badge.

Series IV

Course XIX. Home Baking.

Nine lessons, one every Friday at 2:30 and 7:30, commencing September 24th. (The evening lesson duplicates that of the afternoon.)

September 24, 2:30 and 7:30—Quick Breads: Raisin Muffins, Drop Potato Biscuits, Apple and Cornmeal Pone, etc.

October 1, 2:30 and 7:30—Yeast Breads: Currant Loaf, Luncheon Rolls, Oatmeal Bread, etc.

October 8, 2:30 and 7:30—Butter Cakes: White Cake, Applesauce Cake, Three-Minute Cake, etc.

October 15, 2:30 and 7:30—Sponge Cakes: Cold Water Sponge Cake, Chocolate Sponge Cake, Orange Sponge Cake, etc.

October 22, 2:30 and 7:30—Raised Loaf Cakes: Election Cake, Cheese Cake, Raised Fruit Cake, etc.

October 29, 2:30 and 7:30—Milk and Egg Desserts: Banana Pudding, Caramel Rice Pudding, Fruit Batter Pudding, etc.

November 5, 2:30 and 7:30—Plain Pastry: Pie Shells, Cocoa Meringue Pie, Granville Tarts, Date Gelatin Pie, etc.

November 12, 2:30 and 7:30—Plain Pastry: Filled Pies, Old Fashioned Double Crust Lemon Pie, Sweet Potato Pie, Squash Pie, etc.

November 19, 2:30 and 7:30—Cookies: Peanut Macaroons, Spiced Drop Cookies, Cocoanut Crispettes, etc. (Home Service Bulletin, Providence Gas Co., Providence, R. I.)

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MISS ATKINSON OF PROVIDENCE TO HOLD RADIO TEA

BECAUSE we would very much like to meet our radio friends, and because so many listeners have expressed a desire to know who "Miss Atkinson" is, we invite you to

A RADIO TEA

Tuesday, October twenty-sixth

From three to five o'clock

In the Lecture Hall on the Fifth Floor.

Will you come? Please do!

(Home Service Bulletin.)

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AMERICAN GAS JOURNAL SERVICE DURING WEEK OF A. G. A. CONVENTION

Telephone—We have installed a telephone in our Booth No. 150, for the use of all gas men attending the Convention. Your office can reach you on the Pier by calling our number **Marine 3018.**

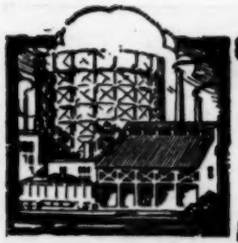
Messenger Service—We will have messenger boys on hand to run your errands, call you to phone, etc.

Registration List of A. G. A. Members and Guests—If our printing facilities will permit we will print daily complete list of all registrations. If not, we will print A. G. A. membership list, and list of all guests registered will be on hand in our booth, so that you can get in touch with your friends quickly.

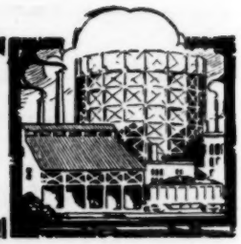
The daily issues of the American Gas Journal will be distributed every morning at the principal hotels and on the Pier. Our office will be on the pier, and any items left at the office during the day will be published in the next morning's edition.

This service is for the use of every one attending the Convention. Use it whenever it suits your convenience.

AMERICAN GAS JOURNAL,
Pioneer of the Industry.



NEWS OF THE GAS INDUSTRY



Heads of the Gas and Electric Utilities of New York State to Meet

New York City.—More than two hundred executives of gas and electric utilities from all parts of the state will meet at the Lake Placid Club, Lake Placid, N. Y., on October 4th and 5th, for the twenty-second annual convention of the Empire State Gas and Electric Association.

The importance of gas and electric service to community growth and the interest of the public in utility service, as well as problems arising from the present record demand for service, will be chief features for discussion at the business meetings.

The opening address on October 4 will be made by President Ernest C. Scobell of Rochester.

Samuel S. Board of the Yale Graduate Placement Bureau will speak on the "Selection and Training of Utility Company Employees," and Dr. Theodore J. Grayson of the University of Pennsylvania will speak on "Management Problems of the Holding Company."

Other addresses will be made by Hon. George R. Van Namee, of the New York State Public Service Commission and by the Right Reverend David Lincoln Ferris, Bishop Coadjutor of Western New York.

The association will hold its annual dinner on the evening of October 4, followed by the president's reception and a dance for the members and their families. Two golf tournaments, motor trips through the Adirondacks and a bridge party are included in the entertainment program.

U. G. I. to Introduce Intermittent Vertical Chamber Ovens

Philadelphia, Pa.—The U. G. I. Contracting Company, of Philadelphia, has completed arrangements with the Stettiner Company of Germany to introduce into this country an American modification of the intermittent vertical chamber ovens. These ovens are used extensively abroad with great success.

For nearly two years the U. G. I. Contracting Company has had some of its best engineers in Europe studying carbonizing systems in order to determine the most efficient type which could be adapted for use in the United States, and the conclusion reached of building these ovens here is based on the very careful and thorough study made by these engineers.

The U. G. I. intermittent vertical chamber ovens have many features that have made them popular abroad, and which will be useful and efficient in this country.

The ovens can be installed at a capital expenditure which is reasonable, and they will be capable of being adapted by many of the smaller and medium size gas companies economically, and will also take their place in larger plants.

The U. G. I. intermittent vertical chamber oven operates in much the same way as the vertical retort system, the coal, however, being charged in bulk and the coke discharged likewise.

Most excellent control of heats is obtained and the labor per ton of coal carbonized is quite low.

The design and operation of the ovens permits of steaming, increasing capacity and ammonia yield.

For situations where larger size coke is required, the coke will be excellent, as this method of carbonization yields a greater percentage of the larger coke.

The quality of the coke produced is equal to that from the intermittent vertical retorts or from coke ovens, and breeze is reduced to a minimum.

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Midway Gas Co. Plans Big Line

Los Angeles, Calif.—The Midway Gas Company has completed plans for construction of a high-pressure transmission line, 35 miles in length, which will convey gas from its main transmission line near Rose station, at the foot of the Tejon pass, to the Monolith Cement Company's plant, four miles east of Tehachapi. The cost of this line will be in excess of $300,000.

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Kansas City Gas Co. Working Hard on House Heating Business

Kansas City, Mo.—The Kansas City Gas Company still is carrying on its campaign, started last year, to install gas in homes for heating purposes.

So far this season 858 persons have signed contracts in Greater Kansas City for installations for heating, B. C. Adams, representative here of the Henry L. Doherty interests, which control the gas company, said today. Of that number 670 represent new contracts in Kansas City, Mo., and 188 in Kansas City, Kas. The new contracts, Mr. Adams said, were in addition to 404 customers who put in trial installations last year. It was stated 2,041 surveys are now being made by the company in homes for additional prospective users.

The Missouri public service commission has authorized the company to add two thousand house heating customers on the trial 3-part rate in Kansas City, Mo. The Kansas commission has granted permission to add fifteen hundred trial customers in Kansas City, Kas., Topeka and Wichita.

Mr. Adams said that, barring accidents, the pipe line company would have plenty of gas for house heating this winter, probably 10 million cubic feet in excess of the demand.

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Empire State G. & E. Co. Increases Capitalization

Albany, N. Y.—Empire Gas and Electric Company, Geneva, N. Y., has filed a certificate in the office of the secretary of state increasing its capital from $5,500,000 to $10,000,000.

Ocean County Gas Co. Sold to Col. Wolff

New 200,000 Ft. Holder and New Machinery to Come

Toms River, N. J.—The Ocean County Gas Company, located at Toms River, was recently sold by Howard Ewart, receiver under the Court of Chancery, to Col. S. E. Wolff, of New York, and associates. It will hereafter be conducted by the Ocean Gas Company. Col. Wolff states that the plant will be put in first class shape, and that there is ample capital in reach to do this.

The new company was also organized on Saturday last, with S. E. Wolff as president; E. G. Berry of Toms River, secretary and manager; D. Graham, East Orange, treasurer. The new company has authorized capital of $275,000 in stock, and has authorized $275,000 in bonds, of which $60,000 will shortly be issued.

Col. Wolff states that in addition to the purchase price, already paid the new company has $175,000 available to rebuild and extend the plant and mains in the next year, and that as the business grows, additional funds will be available for any needed expenses.

The first big improvement is to be a 200,000 cubic foot gas holder, ten times the capacity of the present holder; an additional steam boiler, purification apparatus, exhauster, compressor, station meter and an additional generator of 600,000 cubic feet daily capacity. Mains will be extended both on the mainland and on the beaches.

Mr. Wolff has been engaged in the gas and other public utility fields since boyhood; first at Jackson, Michigan, where he was born and served his apprenticeship in the gas industry, and later became vice-president and manager of the Gas and Electric Light Companies at Saginaw and Bay City, Michigan. The group which managed these properties brought him to New York City, where in a supervisory capacity he was for many years engaged in acquiring, reorganizing, and developing gas, electric light, railway and water companies as well as a number of coal mines.

J. C. Groble Buys Pierse Mfg. Co.

Anderson, Ind.—J. C. Groble, prominent manufacturer and business man, has announced that he has purchased the Pierse Manufacturing Company, and that he would head a company which would convert it into a new plant for manufacturing gas regulators.

It is the intention of Mr. Groble to purchase new machinery and begin the production of gas regulators in the new plant by Dec. 1.

To Install New Machinery

It is the plan of Mr. Groble to form a $100,000 stock company to be known as the Groble Gas Regulator Company, to take care of the new enterprise.

Mr. Groble was in the gas business for twenty years and in the regulator business twelve years.

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Adrian Gas Plant Gets Improvements

Adrian, Mich.—Officials of the Citizens Gas Fuel Company have announced the approval for construction of a new gas holder to be erected near the Winter street plant of the company. The new holder is the first unit in a number of improvements to be made by the gas company in keeping with provisions made at the time of the purchase of the plant at a receiver's sale. The present capacity of the plant with two holders is 169,000 cubic feet.

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Charles H. Hagerty Resigns from Valdosta Gas Co.

Valdosta, Ga.—Mr. Charles H. Hagerty, who has been connected with the Valdosta Gas Company for the past fourteen years resigned his position as manager, to become effective October 1. The Valdosta Gas Company was purchased last year by the Southern Gas & Power Corporation.

Mr. Hagerty has decided to enter the insurance business and will represent the New York Life Insurance Co. in Valdosta.

N. Y. Gas Companies Ask For Approval of Extensions

Albany, N. Y.—Application has been made to the Public Service Commission by the Cohoes Power and Light Corporation for the approval of an extension of its franchise to lay conductors for gas through the streets, highways and public places in the village of Waterford and also for an extension of its electric light lines in the territory indicated. A public hearing will be held on the application at an early date.

Hearings have been held before the Public Service Commission on the applications of the Troy Gas Company to extend its gas mains and electric lines in the town of Waterford, Saratoga county. The company is already furnishing electric current in a part of the town but desires to serve a larger territory than is now receiving electricity. The gas mains will be carried into the town as an extension from mains already located in the village of Waterford. There was no opposition to the application. The decision of the commission will be announced at a later date.

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JACOB B. JONES AND ASSOCIATES ON AUTO TRIP

On Go-as-You-Please Schedule, Expect to Finally Reach Quebec

Bridgeton, N. J.—With a delightful go-as-you-please schedule, four well-known Bridgeton men left recently for an automobile trip of about two weeks, their final objective being Quebec, Canada.

Proceeding into New York State, the travelers will skirt Lake George and Lake Champlain, visiting Ausable Chasm, and go up to Montreal. From Quebec they return to the States and will visit a number of places in New England, including Portland and Boston. The schedule is so elastic that the two golf fans, Ward and Jones, are to stop and play whenever they find links to their fancy.

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Consolidated Gas Co. to Show Motion Picture

New York City.— A private showing of a motion picture entitled, "To Serve New York," was shown on September 22nd by the Consolidated Gas Co. of New York City.

Smith College, Largest Women's College in the World, Turns to Gas For Cooking

Northampton, Mass.—About four years ago Smith College authorities, after an inspection of a number of installations of gas ranges in private houses and comparing the costs of gas vs. coal for fuel, decided to try out gas in one of the new dormitories. After one year's trial, it was decided to equip the college kitchens with gas for cooking and nothing was to be spared in installing the most up-to-date equipment that could be secured.

For four years now the work of changing over from coal to gas has been going forward until today all of the dormitories are equipped with modern gas ranges, broilers and small stoves in the various kitchenettes which are used by the students themselves.

The maintenance cost of the ranges has been nothing compared with the cost of repairing the coal ranges and keeping them in shape. The matrons and cooks in the various houses all speak very highly of the efficiency of the ranges. The kitchens are cooler and cleaner to work in and meals can be prepared quicker and easier while the work of carrying coal, wood and ashes has been eliminated.

Operating Division of New England Gas Association to Meet

The second meeting of the Operating Division will be held at the Hotel Kimball, Springfield, Mass., on October 1st and 2nd. An interesting grogram is being developed which your directors believe will be of value to all in the gas industry. The program outlined is as follows:

Friday, October 1, 1926: 6:00 p. m., Dinner; 8:00 p. m., First Session. Speakers: Sidney W. Ashe, Educational and Welfare Dept., General Electric Company, Pittsfield, Mass. Paper: "Waste Heat Boilers and Holder Heating Installation at Springfield," by Mr. James Gloster. 10:00 p. m., adjournment.

Saturday, October 2, 1926: 10:00 a. m., Reconvene in Convention Hall. Papers: "Springfield Distribution System," by Mr. Fred F. Faulstach; "House Heating," by Mr. E. L. Woods.

Question Box: (1) What results with Steam Accumulators? (2) What is being done with your Ammonia? (3) What are your results with NH_3 Purification Apparatus?

This session will end the formal part of our program, leaving the members free to follow their own desires. For those who wish, arrangements have been made so they may have an afternoon of golf or may visit the plant or the distribution system of the Springfield Gas Light Company, who extend a cordial invitation to do so.

Consumers Gas Holds Outing

Reading, Pa.—The combined picnic of the Consumers Gas Company, of this city, and the Gas and Fuel Company of Lebanon was held at the Green Valley Country Club. Several hundred employees of each company attended.

Tennis, quoits, baseball and volleyball contests between teams representing the two companies were features. Four singles and two doubles matches comprised the tennis matches, with Allyn C. Taylor, J. Calhoun Smith, Charles Hofmann and William Nail representing Reading, and Elwood Griest, Russell Uhler, William Gregg and Ashton Wilhelm representing the Lebanon picnickers. The evening was devoted to dancing, with music by Win Snyder's Orchestra, of Reading, and was much enjoyed.

For the benefit of those who did not participate in out-door sports, cards and similar games were available. Running races and novelty contests were included in the activities. A basket luncheon was enjoyed at noon-time. Ice cream, pretzels, peanuts and other refreshments were served to the employees through the courtesy of the two companies.

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Wichita Falls to Have More Gas

Wichita Falls, Tex.—Definite assurance that the Upham Gas Company would be within the city limits with their pipe line was given officials of the Chamber of Commerce here recently, it being shown that work on the huge main was being pushed forward as rapidly as possible. The company is now serving patrons at Vernon, near here, and are continuing on to this city.

A huge saving in fuel consumption of the city will be effected by the Upham Company, it was disclosed by a report made to the officials during the conference. This report was compiled to show the industrial consumption as well as domestic trade and brought out the fact that the sum of $1,042,284 would be saved by twenty-four of the larger users alone, these figures being based on the present price of fuel oil, which is $1.50 per barrel.

The total daily consumption of gas for these twenty-four concerns was placed at 20,000,000 cubic feet, or approximately 650,400,000 cubic feet a month, and 7,804,800,000 cubic feet annually. The estimated daily capacity of the Upham wells is 200,000,000 cubic feet, which is an ample supply for the required users of this city, even allowing for a large increase in consumption.

Among the large users who will benefit by this change in fuel are the American Refining Company with a daily capacity of 4,000,000 cubic feet; the Texhoma Oil Company which will use 1,500,000 cubic feet; the Wichita Falls Brick and Tile Company, using 1,000,000; the Wichita Falls Sash and Door Company, using 1,300,000, and the Wichita Falls Electric Company, using 2,000,000. All of these have signed up with the Upham Company. Other smaller firms and others who have signed up will bring the total daily consumption up to 22,030,000 cubic feet, while the pipe-line capacity is for 35,000,000.

Midway Gas Company to Lay New Transmission Line

Monolith Cement Company Replaces Fuel Oil With Natural Gas

Los Angeles, Cal.—The Midway Gas Company has completed final plans for construction of a high-pressure transmission line, thirty-five miles in length, which will convey gas from its main transmission line near Rose Station, at the foot of the Tejon Pass, to the Monolith Cement Company's plant, four miles east of Tehachepi. The cost of this line will be in excess of $300,000.

The line is to consist of thirty-three miles of eight-inch pipe, and two miles of six-inch pipe, comprising a continuous welded system throughout its entire length. Construction will begin immediately, and it is expected that work will be completed some time in October.

The Monolith Cement Company's plant has in the past been operating on a fuel oil basis, and conversion to natural gas was undertaken after extensive research covering the comparative merits of the two fuels.

It is estimated that the Monolith plant will consume seven million cubic feet of gas each day, aggregating more than two and a half billion feet annually, in the production of 4,000 barrels of cement each day.

Home Owners Service Institute to Demonstrate Use of Gas

From Part of Blue Star Campaign

New York, N. Y.—The uses of gas in the modern home and the merits of certain highly approved gas equipment as set forth in the "Blue Star" campaign of the American Gas Association, will be demonstrated to the public from coast to coast during the next twelve months as a feature of the most far reaching merchandising campaign ever organized in the building and allied fields.

Under the supervision of the Home Owners' Service Institute of New York City, 360 model demonstration houses will be built in the next year in 28 "key" cities of the United States in an effort to show the public the importance of good construction and the use of highly approved materials and equipment. The Institute is an organization pledged to raise construction standards in this country and the model house campaign is a feature of its 1926-1927 program. Such non-competitive national organizations as the American Gas Association, the Lehigh Portland Cement Company, the Common Brick Manufacturers Association of America and others, are members of the Institute who believe that their sales will increase throughout the country as a result of the educational features of this campaign.

Blue Star Installations in All

All of these houses will have "Blue Star" gas installations, in accordance with the specifications of the American Gas Association. These installations are standard installations of gas piping and appliances developed by the American Gas Association. Member gas companies throughout the United States are permitted to adapt these standards to local requirements and to award to every house so equipped a certificate and to designate it as a "Blue Star" home.

Outlets will be provided in these demonstration houses for gas ranges, fireplace heaters, auxiliary heaters, gas fired boilers, hot water heaters and in the service entry of the kitchens, an outlet for the new type of gas refrigerator now being developed.

Because these houses represent the "Blue Star" specifications of the American Gas Association, the local gas companies, members of the Association, will call public attention to the demonstrations in each of the 28 cities. Hundreds of thousands of invitations to inspect the model homes will be sent out by the local gas companies to gas consumers.

Dramatizing the Model House

The Home Owners' Service Institute has taken the old fashioned and well known "model" house that has appeared from time to time for many years back in various department stores, subdivisions and public squares and dramatized it through the application of modern merchandising methods so business will be actually stimulated from coast to coast for the entire gas industry. A series of unusual charming architectural designs, approved by the American Institute of Architects, have been selected for these demonstration houses that are now being built of brick, stucco, frame and combinations of these materials.

A number of the first series of these houses will be opened this month, (October) and others on into November and December. The cities include New York, Cleveland, Atlanta, New Orleans, Chicago, Denver, San Francisco and twenty-one other cities.

Wide Publicity Planned

This campaign differs from any other model house demonstration ever before attempted. Back of the building of these houses is elaborate organization covering the advertising and news columns of the dominant newspapers and trade journals, national magazines and outstanding trade journals of the country. Pages of educational advertising and publicity in these mediums will be supplemented in each city by the distribution of millions of "Manuals," setting forth the fundamental principles of good construction and the wisdom of using standard or trade marked nationally advertised materials; millions of pieces of literature calling attention to the demonstration houses and hundreds of store window displays—all urging the public to demand good construction. Three million dollars will be spent in this effort in advertising of various kinds and $5,000,000 will be spent in real estate, construction labor and good grade of standard materials and equipment, a total expenditure of $8,000,000 for better building publicity. More than $100,000 is being spent in national advertising alone.

It is the careful tie-up of this campaign with every available medium of reaching the public attention that will impress these houses so vividly on the public mind that construction standards will be established throughout the land that other builders will find it wise to follow.

New England News

Northampton, Mass.—The D. M. Dillon Co. has just completed the installation of a 72 inch 150 pounds Tubular Boiler at the gas plant of the Northampton Gas Light Co. The company is also installing at their Northampton works a No. 7 Roots Vertical Exhauster 60,000 cubic feet per hour capacity connected to a 7 x 7 Troy Engine.

Central Cities Utilities Co. Incorporated

Des Moines, Ia.—The Central Cities Utilities Company was incorporated under the laws of Delaware in July, 1926, to acquire and operate manufactured gas properties. The company has acquired all of the capital stock of the Watertown Gas Company, Watertown, S. D.; Paxton Gas Company, Paxton, Ill.; Peoples Gas and Power Company, Chariton, Ia.; Le Mars Gas Company, Le Mars, Ia., and the Citizens Gas Company, Scottsbluff, Neb. The latter property is now under construction.

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Utica Gas Extension Granted

Albany, N. Y.—The Public Service Commission has approved the petition of the Utica Gas and Electric Company for permission to extend its gas plant in the village of Oriskany, Oneida county, and for the exercise of a franchise therefor granted to the company by the village. It is proposed to install about three and one-half miles of distribution line at a cost of approximately $50,000. About 150 customers will be served by the new line.

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S. C. Schmulbach Is Promoted

East St. Louis, Mo.—Sam C. Schmulbach, sales manager of the East St. Louis territory for the Illinois Power and Light Corporation, has been appointed district manager of the interests of the company in the Cairo, Mounds and Mound City territory, effective September 15th, according to an announcement which was made by Bert H. Peck, general manager of the southern division of the company.

Mr. Schmulbach became connected with the company in May, 1913, in capacity of an office clerk, and since that time has learned the gas business from the bottom up and during the past two years has also been in charge of the sales promotion and advertising departments of the company. In his new position, Schmulbach will have complete charge of the gas, electric, water and street railway systems, with principal offices in Cairo.

Mr. Schmulbach was tendered a farewell dinner by 150 employees of the Illinois Power and Light Corporation at the Community House, recently. M. R. Noack, manager of the East St. Louis property, acted as toastmaster. W. A. Bertke, gas engineer of the southern division, and several department heads were called upon for remarks, after which Mr. Schmulbach was presented with a handsome white gold watch and chain as a memento by the employees of the company.

F. L. Chamblin, former clerk of the local utility corporation, who has been promoted to the accounting office, was also a guest at the dinner.

Gas Co. Sale Details Given Stockholders

Koppers Company of Pittsburgh Offers Share and a Half for Share and Directors Approve

New Haven, Conn.—Details of the plan for the sale of the New Haven Gas Company to the Koppers Company of Pittsburgh, Pa., are made known to stockholders of the New Haven Gas Light Company in a circular letter that has been sent out by President Clarence Blakeslee. This provides for an exchange of stock.

The Koppers Company offers to exchange one share of preferred stock and one-half share of common stock for one share of Gas Light Company stock. President Blakeslee states that the directors of the company approve this plan and its acceptance by the stockholders of the Gas Light Company is recommended.

President Blakeslee's letter follows:

"To the Stockholders of the New Haven Gas Light Company:

"The proposition of the Koppers Company, of Pittsburgh, Pa., herewith submitted, has been unanimously approved, and its acceptance recommended by the directors of your company, each of whom will accept it, with the right of those who may be asked to remain as directors to retain ten (10)shares each for the purpose of qualification. It is available to all of the stockholders, upon equal terms.

"The project in aim of which this stock is sought is one which the directors believe will be of great advantage to New Haven, and to the state, as well as to our customers and our stockholders.

"The Koppers Company is a large and successful corporation, whose subsidiaries are engaged in many lines of work, including the manufacture and operation of gas and by-products coke plants. It has acquired a large tract of land in the city of New Haven, and intends to erect a by-product coke plant for the manufacture of high grade coke for industrial and domestic use, and the production of gas, to be sold to the New Haven Light Company. If duly authorized, it intends to cause gas to be distributed by pipe line to other gas companies throughout the state. It will cause a corporation to be organized for this purpose, and build a plant in which a large sum will be invested.

"It will also cause a holding corporation to be organized under the name of the Connecticut Gas and Coke Securities Company, to hold such stock in the New Haven Gas Light Company and other gas companies as it may require. This company will hold 20,000 shares of the stock of the New Haven Gas Light Company and 14,000 shares of the Hartford City Gas Light Company, for which the Koppers Company has paid cash.

"The holding company will issue 200,000 shares of preferred capital stock of no par value, and 300,000 shares of common stock of no par value. Two hundred thousand (200,000) shares of this common stock will be issued to the Koppers Company in exchange for the above-named stocks now owned by it.

"Stockholders will observe that the new company will have outstanding only 200,000 shares of preferred stock as compared with 220,000 shares of New Haven Gas Light Company stock at present outstanding."

Ruud Heater Carried by Airplane

Pittsburgh, Pa.—On October 5th the Philadelphia Rapid Transit Company established an express and passenger service between Philadelphia and Norfolk, Va. On its maiden trip the giant Fokker plane carried the first automatic gas water heater ever sent by air, a Ruud, consigned by Bartlett & Co., Ruud Philadelphia distributors, to W. E. McCreery, sales manager of the City Gas Company, Norfolk, Va., this particular heater to be used as a prize given away in connection with the Ruud campaign now being conducted by this dealer.

The time of the trip was three and one-half hours. The picture shows the heater being transferred from the plane at Norfolk to the big White motor truck of the gas company, suitably decorated, in which it was carried around the streets of Norfolk. Later it was placed on display at the gas company show room and still later at the Norfolk Food Show in the gas company booth. I. M. Shaw, Ruud district manager for the state of Virginia, and W. E. McCreery, sales manager of the gas company, and other gas company officials are shown in the picture.

The only other shipment on the plane consisted of some samples of ice cream, but inasmuch as the Ruud heater wasn't operating, it arrived in good condition.

Contracts Awarded

The Traverse City Gas Company of Traverse City, Mich., has placed a contract with The Western Gas Construction Company, for the furnishing of two steel purifiers, P & A tar extractor and for making certain changes at their plant at Traverse City, Mich.

The Louisiana Public Utilities Company, Inc., has placed a contract with The Western Gas Construction Company, for the furnishing and installing of a complete water gas plant, at Lafayette, La. This plant will include a modern Western By-Pass set, purifiers, relief holder, compressor and other auxiliary apparatus and also steel type of building.

The Gas Machinery Co. of Cleveland, O., recently received an order for six breeze collectors which have been installed on six water gas sets in the works of the Detroit City Gas Co., Detroit, Mich.

The breeze collectors eliminate neighborhood complaints, provide cleaner yard and plant, and the breeze saved is burned under the boilers, which saving pays a good financial return on the investment.

The Gas Machinery Co. has received an order from the Northwestern Public Service Co., of Huron, S. D., for a new five-foot carburetted water gas generator and auxiliary equipment.

This water gas equipment will be all of the latest type and will enable the gas company to continue giving the good service it has always rendered in the past.

The Ohio Gas Light & Coke Co., of Bryan, O., has awarded contract to The Gas Machinery Co., of Cleveland, O., for new purifying equipment and connections.

The new purifying equipment to be arranged for fifteen foot diameter steel purifiers twelve feet high and built for duplex operation.

The contract includes ten-inch valves and connections, trays and tray beams, self-sealing cover and oxide doors, and hoisting apparatus for purifier cover.

The Jackson County Light, Heat & Power Company, of Independence, Missouri, has awarded contract to The Gas Machinery Company, of Cleveland, Ohio, for new purifying equipment and connections.

The new purifying equipment to be arranged for twenty foot diameter steel purifiers twelve feet high, and built for duplex operation. The valves and connections are so arranged that special valves will be provided for reversing the flow of gas in each purifier.

The Gas Machinery Company, of Cleveland, Ohio, has recently completed contract at the Gas Works at Stroudsburg, Pennsylvania.

The work included new connections from water gas sets to relief holder, new sixteen inch connection in relief holder, and new connections for condenser in now location.

The Gas Company increased its plant capacity by making the above change in order to take care of the increased volume of service that is being demanded.

* * *

New Gas Rate in Olympia

Olympia, Wash.—A big reduction in gas rates for large consumers in Olympia is provided in a tariff recently filed with the department of public works by the Olympia Gas Company, division of the Mountain States Power Company.

The tariff eliminates the demand charge entirely for users of appliances demanding more than 200 cubic feet per hour, which is the demand of the average water heater. It is made particularly to apply a low rate for heating appliances using gas. The tariff provides a rate of $2 for the first thousand cubic feet, $1.25 per thousand for the next two thousand cubic feet in Olympia and $1.00 per thousand in Tacoma, and all gas consumed over three thousand cubic feet at five cents per thousand in either city.

Under the tariff which this one will supersede, the lowest rate was seventy cents per thousand and this did not apply until after fifty thousand cubic feet had been used. The old tariff also carries a high demand charge which caused large bills during the summer, when little or no heating gas was used.

The "HEADER"

Another Exclusive Welsbach Feature

The Header is placed above the glowers to improve combustion, hold each glower in place and to enable all glowers to be lighted evenly from bottom to top.

METAL HEAT REFLECTOR—Behind the glowers is placed a metal back which acts as a reflector, prevents absorption of heat by the heater itself and tends to send the heat straight out.

THE GLOWERS are made of clay that will withstand the most intense heat, are easily removed and are so held in place by the header that they cannot possibly fall out or get out of place.

You should be handling the Welsbach line of Radiant Gas Heaters. Write for literature and NEW LOWER PRICES.

Be sure to see us at the A. G. A. Convention
Atlantic City, October 11th-15th

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